

SEQUENCE LISTING

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<120> CRYSTAL OF BACTERIA CORE RNA POLYMERASE WITH RIFAMPICIN

<130> 2555-1-001

<140> UNASSIGNED
 <141> 2001-03-09

<160> 4

<170> PatentIn version 3.0

<210> 1
 <211> 1525
 <212> PRT
 <213> Thermus aquaticus

<220>
 <221> X
 <222> (1247)..(1247)
 <223> Any amino acid can be placed at this position.

<400> 1

Met Lys Lys Glu Val Arg Lys Val Arg Ile Ala Leu Ala Ser Pro Glu
 1 5 10 15
 Lys Ile Arg Ser Trp Ser Tyr Gly Glu Val Glu Lys Pro Glu Thr Ile
 20 25 30
 Asn Tyr Arg Thr Leu Lys Pro Glu Arg Asp Gly Leu Phe Asp Glu Arg
 35 40 45
 Ile Phe Gly Pro Ile Lys Asp Tyr Glu Cys Ala Cys Gly Lys Tyr Lys
 50 55 60
 Arg Gln Arg Phe Glu Gly Lys Val Cys Glu Arg Cys Gly Val Glu Val
 65 70 75 80
 Thr Arg Ser Ile Val Arg Arg Tyr Arg Met Gly His Ile Glu Leu Ala
 85 90 95
 Thr Pro Ala Ala His Ile Trp Phe Val Lys Asp Val Pro Ser Lys Ile
 100 105 110
 Gly Thr Leu Leu Asp Leu Phe Ala Thr Glu Leu Glu Gln Val Leu Tyr
 115 120 125
 Phe Asn Lys Tyr Ile Val Leu Asp Pro Lys Gly Ala Val Leu Asp Gly
 130 135 140
 Val Pro Val Glu Lys Arg Gln Leu Leu Thr Asp Glu Glu Tyr Arg Glu
 145 150 155 160
 Leu Arg Tyr Gly Lys Gln Glu Thr Tyr Pro Leu Pro Ala Gly Val Asp
 165 170 175
 Ala Leu Val Lys Asp Gly Glu Glu Val Val Lys Gly Gln Glu Leu Ala
 180 185 190
 Pro Gly Val Val Ser Arg Met Asp Gly Val Gly Ser Leu Pro Leu Pro

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195                200                205
Arg Arg Val Arg Val Asp Tyr Leu Arg Lys Glu Arg Ala Ala Leu Arg
 210                215                220

Ile Pro Leu Ser Ala Trp Val Glu Lys Glu Pro Tyr Arg Pro Gly Glu
225                230                235                240

Val Leu Ala Glu Leu Ser Glu Pro Tyr Leu Phe Arg Ala Glu Glu Ser
                245                250                255

Gly Val Val Glu Leu Lys Asp Leu Ala Glu Gly His Leu Ile Tyr Leu
                260                265                270

Arg Gln Glu Glu Glu Val Val Ala Arg Tyr Phe Leu Pro Ala Gly Met
                275                280                285

Thr Pro Leu Val Val Glu Gly Glu Ile Val Glu Val Gly Gln Pro Leu
290                295                300

Ala Glu Gly Lys Gly Leu Leu Arg Leu Pro Arg His Met Thr Ala Lys
305                310                315                320

Glu Val Glu Ala Glu Glu Glu Gly Asp Ser Val His Leu Thr Leu Phe
                325                330                335

Leu Glu Trp Thr Glu Pro Lys Asp Tyr Lys Val Ala Pro His Met Asn
                340                345                350

Val Ile Val Pro Glu Gly Ala Lys Val Gln Ala Gly Glu Lys Ile Val
355                360                365

Ala Ala Ile Asp Pro Glu Glu Glu Val Ile Ala Gln Ala Glu Gly Val
370                375                380

Val His Leu His Glu Pro Ala Ser Ile Leu Val Val Lys Ala Arg Val
385                390                395                400

Tyr Pro Phe Glu Asp Asp Val Glu Val Thr Thr Gly Asp Arg Val Ala
                405                410                415

Pro Gly Asp Val Leu Ala Asp Gly Gly Lys Val Lys Ser Glu Ile Tyr
                420                425                430

Gly Arg Val Glu Val Asp Leu Val Arg Asn Val Val Arg Val Val Glu
435                440                445

Ser Tyr Asp Ile Asp Ala Arg Met Gly Ala Glu Ala Ile Gln Glu Leu
450                455                460

Leu Lys Glu Leu Asp Leu Glu Lys Leu Glu Arg Glu Leu Leu Glu Glu
465                470                475                480

Met Lys His Pro Ser Arg Ala Arg Arg Ala Lys Ala Arg Lys Arg Leu
                485                490                495

Glu Val Val Arg Ala Phe Leu Asp Ser Gly Asn Arg Pro Glu Trp Met
500                505                510

Ile Leu Glu Ala Val Pro Val Leu Pro Pro Asp Leu Arg Pro Met Val
515                520                525

Gln Val Asp Gly Gly Arg Phe Ala Thr Ser Asp Leu Asn Asp Leu Tyr
530                535                540

Arg Arg Leu Ile Asn Arg Asn Asn Arg Leu Lys Lys Leu Leu Ala Gln
545                550                555                560

Gly Ala Pro Glu Ile Ile Ile Arg Asn Glu Lys Arg Met Leu Gln Glu

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565					570					575					
Ala	Val	Asp	Ala	Val	Ile	Asp	Asn	Gly	Arg	Arg	Gly	Ser	Pro	Val	Thr
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Asn	Pro	Gly	Ser	Glu	Arg	Pro	Leu	Arg	Ser	Leu	Thr	Asp	Ile	Leu	Ser
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Gly	Lys	Gln	Gly	Arg	Phe	Arg	Gln	Asn	Leu	Leu	Gly	Lys	Arg	Val	Asp
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Tyr	Ser	Gly	Arg	Ser	Val	Ile	Val	Val	Gly	Pro	Gln	Leu	Lys	Leu	His
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Gln	Cys	Gly	Leu	Pro	Lys	Arg	Met	Ala	Leu	Glu	Leu	Phe	Lys	Pro	Phe
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Leu	Leu	Lys	Lys	Met	Glu	Glu	Lys	Ala	Phe	Ala	Pro	Asn	Val	Lys	Ala
			660					665					670		
Ala	Arg	Arg	Met	Leu	Glu	Arg	Gln	Arg	Asp	Ile	Lys	Asp	Glu	Val	Trp
			675				680					685			
Asp	Ala	Leu	Glu	Glu	Val	Ile	His	Gly	Lys	Val	Val	Leu	Leu	Asn	Arg
	690					695					700				
Ala	Pro	Thr	Leu	His	Arg	Leu	Gly	Ile	Gln	Ala	Phe	Gln	Pro	Val	Leu
705						710					715				720
Val	Glu	Gly	Gln	Ser	Ile	Gln	Leu	His	Pro	Leu	Val	Cys	Glu	Ala	Phe
				725					730					735	
Asn	Ala	Asp	Phe	Asp	Gly	Asp	Gln	Met	Ala	Val	His	Val	Pro	Leu	Ser
			740					745					750		
Ser	Phe	Ala	Gln	Ala	Glu	Ala	Arg	Ile	Gln	Met	Leu	Ser	Ala	His	Asn
		755					760					765			
Leu	Leu	Ser	Pro	Ala	Ser	Gly	Glu	Pro	Leu	Ala	Lys	Pro	Ser	Arg	Asp
		770				775					780				
Ile	Ile	Leu	Gly	Leu	Tyr	Tyr	Ile	Thr	Gln	Val	Arg	Lys	Glu	Lys	Lys
785						790					795				800
Gly	Ala	Gly	Met	Ala	Phe	Ala	Thr	Pro	Glu	Glu	Ala	Leu	Ala	Ala	Tyr
				805					810					815	
Glu	Arg	Gly	Glu	Val	Ala	Leu	Asn	Ala	Pro	Ile	Val	Val	Ala	Gly	Arg
			820				825						830		
Glu	Thr	Ser	Val	Gly	Arg	Leu	Lys	Phe	Val	Phe	Ala	Asn	Pro	Asp	Glu
		835					840					845			
Ala	Leu	Leu	Ala	Val	Ala	His	Gly	Leu	Leu	Asp	Leu	Gln	Asp	Val	Val
	850					855					860				
Thr	Val	Arg	Tyr	Leu	Gly	Arg	Arg	Leu	Glu	Thr	Asn	Pro	Gly	Arg	Ile
865						870					875				880
Leu	Phe	Ala	Arg	Ile	Val	Gly	Glu	Ala	Val	Gly	Asp	Glu	Lys	Val	Ala
				885					890					895	
Gln	Glu	Leu	Ile	Gln	Met	Asp	Val	Pro	Gln	Glu	Lys	Asn	Ser	Leu	Lys
			900					905					910		
Asp	Leu	Val	Tyr	Gln	Ala	Phe	Leu	Arg	Leu	Gly	Met	Glu	Lys	Thr	Ala
		915					920					925			
Arg	Leu	Leu	Asp	Ala	Leu	Lys	Tyr	Tyr	Gly	Phe	Thr	Leu	Ser	Thr	Thr

930	935	940
Ser Gly Ile Ile Thr Ile Gly Ile Asp Asp Ala Val Ile Pro Glu Glu 945 950 955 960		
Lys Gln Arg Tyr Leu Glu Glu Ala Asp Arg Lys Leu Arg Gln Ile Glu 965 970 975		
Gln Ala Tyr Glu Met Gly Phe Leu Thr Asp Arg Glu Arg Tyr Asp Gln 980 985 990		
Val Ile Gln Leu Trp Thr Glu Thr Thr Glu Lys Val Thr Gln Ala Val 995 1000 1005		
Phe Asn Asn Phe Glu Glu Asn Tyr Pro Phe Asn Pro Leu Tyr Val 1010 1015 1020		
Met Ala Gln Ser Gly Ala Arg Gly Asn Pro Gln Gln Ile Arg Gln 1025 1030 1035		
Leu Cys Gly Met Arg Gly Leu Met Gln Lys Pro Ser Gly Glu Thr 1040 1045 1050		
Phe Glu Val Pro Val Arg Ser Ser Phe Arg Glu Gly Leu Thr Val 1055 1060 1065		
Leu Glu Tyr Phe Ile Ser Ser His Gly Ala Arg Lys Gly Gly Ala 1070 1075 1080		
Asp Thr Ala Leu Arg Thr Ala Asp Ser Gly Tyr Leu Thr Arg Lys 1085 1090 1095		
Leu Val Asp Val Ala His Glu Ile Val Val Arg Glu Ala Asp Cys 1100 1105 1110		
Gly Thr Thr Lys Tyr Ile Ser Val Pro Leu Phe Gln Met Asp Glu 1115 1120 1125		
Val Thr Arg Thr Leu Arg Leu Arg Lys Arg Ser Asp Ile Glu Ser 1130 1135 1140		
Gly Leu Tyr Gly Arg Val Leu Ala Arg Glu Val Glu Ala Leu Gly 1145 1150 1155		
Arg Arg Leu Glu Glu Gly Arg Tyr Leu Ser Leu Glu Asp Val His 1160 1165 1170		
Phe Leu Ile Lys Ala Ala Glu Ala Gly Glu Val Arg Glu Val Pro 1175 1180 1185		
Val Arg Ser Pro Leu Thr Cys Gln Thr Arg Tyr Gly Val Cys Gln 1190 1195 1200		
Lys Cys Tyr Gly Tyr Asp Leu Ser Met Ala Arg Pro Val Ser Ile 1205 1210 1215		
Gly Glu Ala Val Gly Val Val Ala Ala Glu Ser Ile Gly Glu Pro 1220 1225 1230		
Gly Thr Gln Leu Thr Met Arg Thr Phe His Thr Gly Gly Xaa Ala 1235 1240 1245		
Val Gly Thr Asp Ile Thr Gln Gly Leu Pro Arg Val Ile Glu Leu 1250 1255 1260		
Phe Glu Ala Arg Arg Pro Lys Ala Lys Ala Val Ile Ser Glu Ile 1265 1270 1275		
Asp Gly Val Val Arg Ile Glu Glu Gly Glu Asp Arg Leu Ser Val		

1280	1285	1290
Phe Val Glu Ser Glu Gly	Phe Ser Lys Glu Tyr	Lys Leu Pro Lys
1295	1300	1305
Asp Ala Arg Leu Leu Val	Lys Asp Gly Asp Tyr	Val Glu Ala Gly
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Gln Pro Leu Thr Arg Gly	Ala Ile Asp Pro His	Gln Leu Leu Glu
1325	1330	1335
Ala Lys Gly Pro Glu Ala	Val Glu Arg Tyr Leu	Val Asp Glu Ile
1340	1345	1350
Gln Lys Val Tyr Arg Ala	Gln Gly Val Lys Leu	His Asp Lys His
1355	1360	1365
Ile Glu Ile Val Val Arg	Gln Met Leu Lys Tyr	Val Glu Val Thr
1370	1375	1380
Asp Pro Gly Asp Ser Pro	Leu Leu Glu Gly Gln	Val Leu Glu Lys
1385	1390	1395
Trp Asp Val Glu Ala Leu	Asn Glu Arg Leu Ile	Ala Glu Gly Lys
1400	1405	1410
Val Pro Val Ala Trp Lys	Pro Leu Leu Met Gly	Val Thr Lys Ser
1415	1420	1425
Ala Leu Ser Thr Lys Ser	Trp Leu Ser Ala Ala	Ser Phe Gln Asn
1430	1435	1440
Thr Thr His Val Leu Thr	Glu Ala Ala Ile Ala	Gly Lys Lys Asp
1445	1450	1455
Glu Leu Ile Gly Leu Lys	Glu Asn Val Ile Leu	Gly Arg Leu Ile
1460	1465	1470
Pro Ala Gly Thr Gly Ser	Asp Phe Val Arg Phe	Thr Gln Val Val
1475	1480	1485
Asp Gln Arg Thr Leu Lys	Ala Ile Glu Glu Ala	Arg Lys Glu Ala
1490	1495	1500
Val Glu Ala Lys Glu Lys	Glu Ala Pro Arg Arg	Pro Val Arg Arg
1505	1510	1515
Glu Gln Pro Gly Lys Gly	Leu	
1520	1525	

<210> 2
 <211> 1119
 <212> PRT
 <213> Thermus aquaticus

<220>
 <221> X
 <222> (695)..(696)
 <223> Any amino acid can be at either position.

<400> 2

Met Lys Ile Lys Arg Phe Gly Arg Ile Arg Glu Val Ile Pro Leu Pro
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Pro Leu Thr Glu Ile Gln Val Glu Ser Tyr Lys Lys Ala Leu Gln Ala
20 25 30

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Asp Val Pro Pro Glu Lys Arg Glu Asn Val Gly Ile Gln Ala Ala Phe
   35                                40                                45
Lys Glu Thr Phe Pro Ile Glu Gly Asp Lys Gly Lys Gly Gly Leu
   50                                55                                60
Val Leu Asp Phe Leu Glu Tyr Arg Ile Gly Asp Pro Pro Phe Ser Gln
   65                                70                                75                                80
Asp Glu Cys Arg Glu Lys Asp Leu Thr Tyr Gln Ala Pro Leu Tyr Ala
   85                                90                                95
Arg Leu Gln Leu Ile His Lys Asp Thr Gly Leu Ile Lys Glu Asp Glu
  100                                105                                110
Val Phe Leu Gly His Leu Pro Leu Met Thr Glu Asp Gly Ser Phe Ile
  115                                120                                125
Ile Asn Gly Ala Asp Arg Val Ile Val Ser Gln Ile His Arg Ser Pro
  130                                135                                140
Gly Val Tyr Phe Thr Pro Asp Pro Ala Arg Pro Gly Arg Tyr Ile Ala
  145                                150                                155                                160
Ser Ile Ile Pro Leu Pro Lys Arg Gly Pro Trp Ile Asp Leu Glu Val
  165                                170                                175
Glu Ala Ser Gly Val Val Thr Met Lys Val Asn Lys Arg Lys Phe Pro
  180                                185                                190
Leu Val Leu Leu Leu Arg Val Leu Gly Tyr Asp Gln Glu Thr Leu Val
  195                                200                                205
Arg Glu Leu Ser Ala Tyr Gly Asp Leu Val Gln Gly Leu Leu Asp Glu
  210                                215                                220
Ala Val Leu Ala Met Arg Pro Glu Glu Ala Met Val Arg Leu Phe Thr
  225                                230                                235                                240
Leu Leu Arg Pro Gly Asp Pro Pro Lys Lys Asp Lys Ala Leu Ala Tyr
  245                                250                                255
Leu Phe Gly Leu Leu Ala Asp Pro Lys Arg Tyr Asp Leu Gly Glu Ala
  260                                265                                270
Gly Arg Tyr Lys Ala Glu Glu Lys Leu Gly Val Gly Leu Ser Gly Arg
  275                                280                                285
Thr Leu Val Arg Phe Glu Asp Gly Glu Phe Lys Asp Glu Val Phe Leu
  290                                295                                300
Pro Thr Leu Arg Tyr Leu Phe Ala Leu Thr Ala Gly Val Pro Gly His
  305                                310                                315                                320
Glu Val Asp Asp Ile Asp His Leu Gly Asn Arg Arg Ile Arg Thr Val
  325                                330                                335
Gly Glu Leu Met Ala Asp Gln Phe Arg Val Gly Leu Ala Arg Leu Ala
  340                                345                                350
Arg Gly Val Arg Glu Arg Met Val Met Gly Ser Pro Asp Thr Leu Thr
  355                                360                                365
Pro Ala Lys Leu Val Asn Ser Arg Pro Leu Glu Ala Ala Leu Arg Glu
  370                                375                                380
Phe Phe Ser Arg Ser Gln Leu Ser Gln Phe Lys Asp Glu Thr Asn Pro
  385                                390                                395                                400

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Leu Ser Ser Leu Arg His Lys Arg Arg Ile Ser Ala Leu Gly Pro Gly
    405                                410                                415

Gly Leu Thr Arg Glu Arg Ala Gly Phe Asp Val Arg Asp Val His Arg
    420                                425                                430

Thr His Tyr Gly Arg Ile Cys Pro Val Glu Thr Pro Glu Gly Ala Asn
    435                                440                                445

Ile Gly Leu Ile Thr Ser Leu Ala Ala Tyr Ala Arg Val Asp Ala Leu
    450                                455                                460

Gly Phe Ile Arg Thr Pro Tyr Arg Arg Val Lys Asn Gly Val Val Thr
    465                                470                                475                                480

Glu Glu Val Val Tyr Met Thr Ala Ser Glu Glu Asp Arg Tyr Thr Ile
    485                                490                                495

Ala Gln Ala Asn Thr Pro Leu Glu Gly Asp Arg Ile Ala Thr Asp Arg
    500                                505                                510

Val Val Ala Arg Arg Arg Gly Glu Pro Val Ile Val Ala Pro Glu Glu
    515                                520                                525

Val Glu Phe Met Asp Val Ser Pro Lys Gln Val Phe Ser Leu Asn Thr
    530                                535                                540

Asn Leu Ile Pro Phe Leu Glu His Asp Asp Ala Asn Arg Ala Leu Met
    545                                550                                555                                560

Gly Ser Asn Met Gln Thr Gln Ala Val Pro Leu Ile Arg Ala Gln Ala
    565                                570                                575

Pro Val Val Met Thr Gly Leu Glu Glu Arg Val Val Arg Asp Ser Leu
    580                                585                                590

Ala Ala Leu Tyr Ala Glu Glu Asp Gly Glu Val Val Lys Val Asp Gly
    595                                600                                605

Thr Arg Ile Ala Val Arg Tyr Glu Asp Gly Arg Leu Val Glu His Pro
    610                                615                                620

Leu Arg Arg Tyr Ala Arg Ser Asn Gln Gly Thr Ala Phe Asp Gln Arg
    625                                630                                635                                640

Pro Arg Val Arg Val Gly Gln Arg Val Lys Lys Gly Asp Leu Leu Ala
    645                                650                                655

Asp Gly Pro Ala Ser Glu Glu Gly Phe Leu Ala Leu Gly Gln Asn Val
    660                                665                                670

Leu Val Ala Ile Met Pro Phe Asp Gly Tyr Asn Phe Glu Asp Ala Ile
    675                                680                                685

Val Ile Ser Glu Glu Leu Xaa Xaa Arg Asp Phe Tyr Thr Ser Ile His
    690                                695                                700

Ile Glu Arg Tyr Glu Ile Glu Ala Arg Asp Thr Lys Leu Gly Pro Glu
    705                                710                                715                                720

Arg Ile Thr Arg Asp Ile Pro His Leu Ser Glu Ala Ala Leu Arg Asp
    725                                730                                735

Leu Asp Glu Glu Gly Ile Val Arg Ile Gly Ala Glu Val Lys Pro Gly
    740                                745                                750

Asp Ile Leu Val Gly Arg Thr Ser Phe Lys Gly Glu Gln Glu Pro Ser
    755                                760                                765

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Pro Glu Glu Arg Leu Leu Arg Ser Ile Phe Gly Glu Lys Ala Arg Asp
  770              775              780
Val Lys Asp Thr Ser Leu Arg Val Pro Pro Gly Glu Gly Gly Ile Val
  785              790              795              800
Val Gly Arg Leu Arg Leu Arg Arg Gly Asp Pro Gly Val Glu Leu Lys
              805              810              815
Pro Gly Val Arg Glu Val Val Arg Val Phe Val Ala Gln Lys Arg Lys
              820              825              830
Leu Gln Val Gly Asp Lys Leu Ala Asn Arg His Gly Asn Lys Gly Val
  835              840              845
Val Ala Lys Ile Leu Pro Val Glu Asp Met Pro His Leu Pro Asp Gly
  850              855              860
Thr Pro Val Asp Val Ile Leu Asn Pro Leu Gly Val Pro Ser Arg Met
  865              870              875              880
Asn Leu Gly Gln Ile Leu Glu Thr His Leu Gly Leu Ala Gly Tyr Phe
              885              890              895
Leu Gly Gln Arg Tyr Ile Ser Pro Val Phe Asp Gly Ala Thr Glu Pro
  900              905              910
Glu Ile Lys Glu Leu Leu Ala Glu Ala Phe Asn Leu Tyr Phe Gly Lys
  915              920              925
Arg Gln Gly Glu Gly Phe Gly Val Asp Lys Arg Glu Lys Glu Val Leu
  930              935              940
Ala Arg Ala Glu Lys Leu Gly Leu Val Ser Pro Gly Lys Ser Pro Glu
  945              950              955              960
Glu Gln Leu Lys Glu Leu Phe Asp Leu Gly Lys Val Val Leu Tyr Asp
  965              970              975
Gly Arg Thr Gly Glu Pro Phe Glu Gly Pro Ile Val Val Gly Gln Met
  980              985              990
Phe Ile Met Lys Leu Tyr His Met Val Glu Asp Lys Met His Ala Arg
  995              1000              1005
Ser Thr Gly Pro Tyr Ser Leu Ile Thr Gln Gln Pro Leu Gly Gly
  1010              1015              1020
Lys Ala Gln Phe Gly Gly Gln Arg Phe Gly Glu Met Glu Val Trp
  1025              1030              1035
Ala Leu Glu Ala Tyr Gly Ala Ala His Thr Leu Gln Glu Met Leu
  1040              1045              1050
Thr Ile Lys Ser Asp Asp Ile Glu Gly Arg Asn Ala Ala Tyr Gln
  1055              1060              1065
Ala Ile Ile Lys Gly Glu Asp Val Pro Glu Pro Ser Val Pro Glu
  1070              1075              1080
Ser Phe Arg Val Leu Val Lys Glu Leu Gln Ala Leu Ala Leu Asp
  1085              1090              1095
Val Gln Thr Leu Asp Glu Lys Asp Asn Pro Val Asp Ile Phe Glu
  1100              1105              1110
Gly Leu Ala Ser Lys Arg
  1115

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<210> 3
 <211> 313
 <212> PRT
 <213> Thermus aquaticus

<400> 3

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Met Leu Glu Ser Lys Leu Lys Ala Pro Val Phe Thr Ala Thr Thr Gln
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Gly Asp His Tyr Gly Glu Phe Val Leu Glu Pro Leu Glu Arg Gly Phe
20          25          30

Gly Val Thr Leu Gly Asn Pro Leu Arg Arg Ile Leu Leu Ser Ser Ile
35          40          45

Pro Gly Thr Ala Val Thr Ser Val Tyr Ile Glu Asp Val Leu His Glu
50          55          60

Phe Ser Thr Ile Pro Gly Val Lys Glu Asp Val Val Glu Ile Ile Leu
65          70          75          80

Asn Leu Lys Glu Leu Val Val Arg Phe Leu Asp Pro Arg Trp Arg Thr
85          90          95

Thr Leu Ile Leu Arg Ala Glu Gly Pro Lys Glu Val Arg Ala Val Asp
100         105         110

Phe Thr Pro Ser Ala Asp Val Glu Ile Met Asn Pro Asp Leu His Ile
115         120         125

Ala Thr Leu Glu Glu Gly Gly Lys Leu Tyr Met Glu Val Arg Val Asp
130         135         140

Arg Gly Val Gly Tyr Val Pro Ala Glu Arg His Gly Ile Lys Asp Arg
145         150         155         160

Ile Asn Ala Ile Pro Val Asp Ala Ile Phe Ser Pro Val Arg Arg Val
165         170         175

Ala Phe Gln Val Glu Asp Thr Arg Leu Gly Gln Arg Thr Asp Leu Asp
180         185         190

Lys Leu Thr Leu Arg Ile Trp Thr Asp Gly Ser Val Thr Pro Leu Glu
195         200         205

Ala Leu Asn Gln Ala Val Ala Ile Leu Lys Glu His Leu Asn Tyr Phe
210         215         220

Ala Asn Pro Glu Ala Ser Leu Leu Pro Thr Pro Glu Val Ser Lys Gly
225         230         235         240

Glu Lys Arg Glu Ser Ala Glu Glu Asp Leu Asp Leu Pro Leu Glu Glu
245         250         255

Leu Gly Leu Ser Thr Arg Val Leu His Ser Leu Lys Glu Glu Gly Ile
260         265         270

Glu Ser Val Arg Ala Leu Leu Ala Leu Asn Leu Lys Asp Leu Arg Asn
275         280         285

Ile Pro Gly Ile Gly Glu Arg Ser Leu Glu Glu Ile Arg Gln Ala Leu
290         295         300

Ala Lys Lys Gly Phe Thr Leu Lys Glu
305         310

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<210> 4
 <211> 99

<212> PRT

<213> *Thermus aquaticus*

<400> 4

Met Ala Glu Pro Gly Ile Asp Lys Leu Phe Gly Met Val Asp Ser Lys
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Tyr Arg Leu Thr Val Val Val Ala Lys Arg Ala Gln Gln Leu Leu Arg
20 25 30

His Arg Phe Lys Asn Thr Val Leu Glu Pro Glu Glu Arg Pro Lys Met
35 40 45

Arg Thr Leu Glu Gly Leu Tyr Asp Asp Pro Asn Ala Val Thr Trp Ala
50 55 60

Met Lys Glu Leu Leu Thr Gly Arg Leu Phe Phe Gly Glu Asn Leu Val
65 70 75 80

Pro Glu Asp Arg Leu Gln Lys Glu Met Glu Arg Leu Tyr Pro Thr Glu
85 90 95

Glu Glu Ala